

hepatitis B, and the involvement of cortisol.

**Methods:** Forty patients with chronic hepatitis B completed the Perceived Stress Scale-14 (PSS-14) and State-Trait Anxiety Inventory (STAI-Form). These two scales are self-report questionnaires to measure psychological stress, state anxiety and trait anxiety. We measured two types of T cell-derived cytokines level (IL-10 and IFN) and plasma cortisol. Correlation analysis was employed to explore the relationship among psychological scores, cortisol and cytokine level.

**Results:** Our results show that the level of IL-10 was related to psychological stress ( $P=0.03$ ), state anxiety ( $P=0.01$ ) and trait anxiety ( $P=0.03$ ). No correlations were found between psychological stress and IFN- $\gamma$  levels. Also no correlations were developed between cortisol and psychological stress, anxiety, IL-10, and IFN- $\gamma$ .

**Conclusion:** From the results, it can be concluded that psychological stress depresses the immune reaction in patients with chronic hepatitis B, which is disadvantage of HBV resolve. Those patients were in great need of psychological support. Cortisol plays little role between psychological stress and immune state in patient with hepatitis B.

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#### Association Between HLA-A, B, DRB1 Alleles and Susceptibility or Resistance to Chronic Hepatitis B

A. Ramezani<sup>1,\*</sup>, M.R. Hasanjani Roshan<sup>2</sup>, E. Kalantar<sup>3</sup>, A. Eslamifar<sup>1</sup>, M. Mohraz<sup>4</sup>, M. Banifazl<sup>5</sup>, A. Aghakhani<sup>1</sup>, J. Taeb<sup>1</sup>, A.A. Velayati<sup>6</sup>

<sup>1</sup> Pasteur Institute of Iran, Tehran, Iran (Islamic Republic of)

<sup>2</sup> Babol University of Medical Sciences, Babol, Iran (Islamic Republic of)

<sup>3</sup> School of allied medical sciences, Iran medical university, Tehran, Iran (Islamic Republic of)

<sup>4</sup> Iranian Research Center for HIV/AIDS, Tehran, Iran (Islamic Republic of)

<sup>5</sup> Iranian society for support patients with infectious disease, Tehran, Iran (Islamic Republic of)

<sup>6</sup> Masih Daneshvari Hospital, Tehran, Iran (Islamic Republic of)

**Objective:** Hepatitis B virus (HBV) infection is a major public health problem worldwide. The mechanism of susceptibility to chronic persistent HBV infection is not well clarified, while the outcome of HBV infection mainly depends on the host immune response. Different HLA class I and II alleles may play roles in HBV infection outcome. In this study, the association between HBV infection and HLA alleles was studied.

**Methods:** HLA-A, B and DRB1 alleles in 33 patients with chronic hepatitis B and 31 healthy carriers collapsed as persistent group, and 30 subjects who had spontaneously recovered from HBV infection were analyzed by using PCR-sequence specific primer (PCR-SSP) technique

**Results:** The frequency of HLA-A\*33 allele was higher in persistent group than recovered group ( $P<0.008$ ); the frequency of DRB1\*13 allele was lower in persistent group than

**Conclusion:** HLA-A\*33 was related with susceptibility and HLA-DRB1\*13 was related with protection against persistence of hepatitis B. Our survey also showed that the frequency of B\*52 allele was higher in CHB patients than healthy carriers which further confirmed the role of HLA alleles in clinical presentations of HBV infection. The above results suggest that host HLA class I and II alleles are important factors in determination of the outcome of HBV infection.

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#### Long Term Immune Response to Hepatitis B Vaccine in Haemodialysis Patients

A. Ramezani<sup>1,\*</sup>, A. Eslamifar<sup>1</sup>, M. Mohraz<sup>2</sup>, M. Banifazl<sup>3</sup>, F. Ahmadi<sup>4</sup>, S. Maziar<sup>4</sup>, E. Razeghi<sup>4</sup>, E. Kalantar<sup>5</sup>, M. Hazrati<sup>1</sup>, A. Amirkhani<sup>1</sup>, A. Aghakhani<sup>1</sup>

<sup>1</sup> Pasteur Institute of Iran, Tehran, Iran (Islamic Republic of)

<sup>2</sup> Iranian Research Center for HIV/AIDS, Tehran, Iran (Islamic Republic of)

<sup>3</sup> Iranian society for support patients with infectious diseases, Tehran, Iran (Islamic Republic of)

<sup>4</sup> Tehran University of Medical Sciences, Tehran, Iran (Islamic Republic of)

<sup>5</sup> School of allied medical sciences, Iran University of Medical Sciences, Tehran, Iran (Islamic Republic of)

**Objective:** Hepatitis B (HB) vaccine is effective in producing protection against HB virus infection in hemodialysis (HD) patients, but the persistence of immunity remains largely unknown. In this study we aimed to evaluate the persistence of hepatitis B vaccine immunity in HD patients.

**Methods:** In this study we had followed 54 HD patients up to 1 year after primary hepatitis B vaccination [four doses vaccination schedule 40  $\mu$ g injections intramuscularly in the deltoid muscle at 0,1,2,6 months] to evaluate the persistence of immunity [as indicated by serum levels of antibody to hepatitis B surface antigen (anti-HBs) higher than or equal to 10 IU/l]

**Results:** At 1 year after vaccination, 18.18% of patients had lost their anti-HBs (transient responders) while 81.82% of them had detectable antibody in the serum (persistent responders). From 81.82% of persistent responders 11.5% and 88.5% were weak and high responders respectively. There was no significant difference between persistent and transient responders regarding age, sex and nutritional factors (serum albumin, triglycerides, and cholesterol), hemoglobin, parathyroid hormone (PTH), fasting blood sugar (FBS), C3, C4 and anti-HCV.

**Conclusion:** Our study supported this fact that an antibody titer above 100 IU/l following primary vaccination is necessary in order to maintain that level of antibody 1 year later.

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